

<b>Notice of Allowability</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	09/759,362	AOAI ET AL.	
	Examiner	Art Unit	
	John S. Chu	1752	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1.  This communication is responsive to 2/23/04.
2.  The allowed claim(s) is/are 1,6-9 and 11-17.
3.  The drawings filed on \_\_\_\_\_ are accepted by the Examiner.
4.  Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a)  All    b)  Some\*    c)  None    of the:
    1.  Certified copies of the priority documents have been received.
    2.  Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
    3.  Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.  
**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

5.  A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
6.  CORRECTED DRAWINGS ( as "replacement sheets") must be submitted.
  - (a)  including changes required by the Notice of Draftsperson's Patent Drawing Review ( PTO-948) attached
    - 1)  hereto or 2)  to Paper No./Mail Date \_\_\_\_\_.
  - (b)  including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.

Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7.  DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

**Attachment(s)**

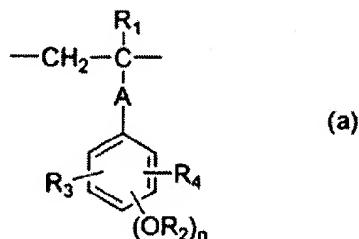
1.  Notice of References Cited (PTO-892)
2.  Notice of Draftsperson's Patent Drawing Review (PTO-948)
3.  Information Disclosure Statements (PTO-1449 or PTO/SB/08),  
Paper No./Mail Date \_\_\_\_\_
4.  Examiner's Comment Regarding Requirement for Deposit  
of Biological Material
5.  Notice of Informal Patent Application (PTO-152)
6.  Interview Summary (PTO-413),  
Paper No./Mail Date \_\_\_\_\_.
7.  Examiner's Amendment/Comment
8.  Examiner's Statement of Reasons for Allowance
9.  Other \_\_\_\_\_.

### **REASONS FOR ALLOWANCE**

The following is an examiner's statement of reasons for allowance: The claimed invention is drawn to the following:

**1 (amended). A negative-working resist composition for electron beams or X-rays comprising (A) a compound generating an acid and/or radical species by the irradiation of electron beams or X-rays selected from the groups consisting of a**

sulfonate compound of sulfonium, a sulfonate compound of iodonium, a sulfonic acid ester compound of N-hydroxyimide and a disulfonyldiazomethane compound, (B) a resin which is insoluble in water and soluble in an alkali aqueous solution and having a repeating unit shown by the following formula (a), (C) a crosslinking agent causing crosslinking with the resin of component (B) by the action of an acid, [and] (D) a compound having at least one unsaturated bond capable of being polymerized by an acid and/or a radical and (E) an organic basic compound,



wherein  $\text{R}_1$  represents a hydrogen atom, a halogen atom, a cyano group, or an alkyl or haloalkyl group which may have a substituent;  $\text{R}_2$  represents a hydrogen atom, or an alkyl, cycloalkyl, aryl, aralkyl, or acyl group which may have a substituent;  $\text{R}_3$  and  $\text{R}_4$ , which may be the same or different, each represents a hydrogen atom, a halogen atom, a cyano group, or an alkyl, cycloalkyl, alkenyl, aralkyl, or aryl group which may have a substituent;  $\text{A}$  represents a single bond, or a divalent alkylene, alkenylene, cycloalkylene, or arylene group which may have a substituent, or  $-\text{O}-$ ,  $-\text{SO}_2-$ ,  $-\text{O}-\text{CO}-\text{R}_5-$ ,  $-\text{CO}-\text{O}-\text{R}_6-$ , or  $-\text{CO}-\text{N}(\text{R}_7)-\text{R}_8-$ ;  $\text{R}_5$ ,  $\text{R}_6$ , and  $\text{R}_8$ , which may be the

same or different, each represents a single bond, or an alkylene, alkenylene, cycloalkylene, or arylene group, which may have a substituent, singly or a divalent group formed by combining the above-described group and at least one kind selected from an ether structure, an ester structure, an amide structure, a urethane structure, and a ureido structure; R<sub>7</sub> represents a hydrogen atom, or an alkyl, cycloalkyl, aralkyl, or aryl group which may have a substituent; and n represents an integer of from 1 to 3; provided that plural R<sub>2</sub>s, or R<sub>2</sub> and R<sub>3</sub> or R<sub>4</sub> may combine with each other to form a ring.

Claim 9 recites a negative resist composition comprising an acid or radical generating compound, a crosslinking agent and a resin which has an unsaturated bond. Claim 9 was indicated to be allowable over the prior art of record as seen in the Office action mailed October 22, 2003, paragraph 5 and is included by reference

The claimed composition in claim 1 recites a particular combination of ingredients (A)-(D) in a negative-working resist composition. The closest prior art and most recent prior art reference to IMAI et al discloses, first a positive resist composition and second in the disclosure suggests additive components, such as epoxy resins which can act as crosslinking agents. The primary distinction as seen by the Office and why the claimed invention is not anticipated or rendered obvious over IMAI et al is the weight that is given to the preamble. The preamble states that the composition is a negative working composition meaning that the portions of the resist composition that are exposed to light remain after development by a suitable developer, while the prior art reference to IMAI et al recites a positive working composition which means that the portions of the resist that are exposed to light are removed upon development by a suitable developer.

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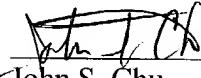
For the reasons stated above claims 1, 6-9 and 11-17 are seen as allowable over the prior art of record and these claims are passed to issue.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Examiner Chu whose telephone number is (571) 272-1329. The examiner can normally be reached on Monday - Friday from 9:30 am to 6:00 pm.

The fax phone number for the USPTO is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (571) 272-1700.

  
John S. Chu

Primary Examiner, Group 1700

J.Chu  
May 16, 2004